

Abstract

Electrically activated, wavelength-selective optical switches, a tunable wavelength selector, and a wavelength-tunable light modulator.

5 In one preferred embodiment, an electrically activated, wavelength-selective optical switch comprises on a common substrate a first waveguide, a second waveguide comprising an electro-optic material, a set of Bragg gratings, and a means for generating an electrical field across the second waveguide. When the electrical field is applied, the refractive

10 index of the electro-optic material and the Bragg phase-matching condition of the Bragg gratings are changed, causing one of the multiplexed input optical signals in the first waveguide to be guided by mode coupling into the second waveguide.